
IN THE ABSTRACT:

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The invention is directed to a A method and apparatus for continuing the operation of a spanning tree protocol at a network device despite crashes or failures at that device. ~~The network device includes a plurality of line cards having ports for receiving and forwarding messages and a plurality of supervisor cards for processing at least some of these messages. Upon start-up, one of the A supervisor cards card contained in the network device is designated the an active supervisor, while all other supervisor cards are designated standby supervisors. The active supervisor runs the spanning tree protocol, identifying the root and the designated bridges and transitioning the ports among the spanning tree port states. The active supervisor and informs the standby supervisors of the states of ports, but not of the identity of the root or designated bridges. When a crash or failure occurs at the active supervisor, one of the standby supervisors is immediately designated to be the new active supervisor. The newly active supervisor reviews the port state, which it received from the failed supervisor, and queries the line cards to determine whether that port state information is still valid. The newly active supervisor adopts the valid port state information, leaving those ports in their current spanning tree port state. The switchover from the failed supervisor to the newly active supervisor, and the resumption of the spanning tree protocol is thus accomplished before other devices within the network detect a failure, avoiding significant network disruption.~~
